

ATTACHMENT A

Sonos, Inc.’s Motion *In Limine* No. 1

EXHIBIT B

(Filed Under Seal)

HIGHLY CONFIDENTIAL-ATTORNEYS' EYES ONLY

**IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

GOOGLE LLC,

Plaintiff,

v.

SONOS, INC.,

Defendant.

Case No. 3:20-cv-06754-WHA
Related to Case No. 3:21-cv-07559-WHA

**REBUTTAL EXPERT REPORT
REGARDING DAMAGES**

January 13, 2023

Respectfully Submitted,



W. Christopher Bakewell

34. Another issue is that Mr. Malackowski has “revenue split” theories embedded in many, but not all, of his royalty calculations for both the patents-in-suit. For these, Mr. Malackowski stated that “in the context of the Asserted Patents, Sonos would act similarly to an app developer.”⁴⁵ But the hypothetical negotiation(s) involve only bare patent rights.⁴⁶ What these “splits” illustrate is that Mr. Malackowski’s theories are unrealistic, lack connection to the facts of this case, and yield results that are not specific to the patents-in-suit.⁴⁷ Mr. Malackowski provides no patent licensing or transaction evidence that uses or is otherwise supportive of Mr. Malackowski’s “split,” specifically, or his running royalty theories, in general.⁴⁸
35. I understand that the cost of implementing commercially acceptable non-infringing alternatives is less than approximately \$2.6 million for the ‘033 patent, less than \$200,000 for the ‘885 patent and less than \$200,000 for the ‘966 patent (*see Exhibit 2.0*). Mr. Malackowski and I appear to agree that these are valid measures of damages, although Mr. Malackowski has assumed that there are no commercially acceptable non-infringing alternatives.
36. Alternatively, to the extent Mr. Malackowski’s theories are considered by the trier-of-fact, adjustments can be made that reduce his estimates to no more than \$5.4 million for the ‘033 patent, no more than \$1.2 million for the ‘885 patent, and no more than \$7.4 million for the ‘966 patent (*see Exhibit 1.0*). These adjustments do not include all potentially reductions and could be greater, meaning that they are generous, yet they yield conclusions that are far lower than what Mr. Malackowski sets forth. Overall, as I will explain in more detail below, these adjustments to Mr. Malackowski’s theories further show the lack of demand for the patents-in-suit, and provide additional evidence regarding commercial acceptability of the non-infringing alternatives.

⁴⁵ Malackowski Supplemental Report, p. 120.

⁴⁶ During his August 26, 2022 deposition, Mr. Malackowski admitted that the hypothetical negotiation would involve a one-way bare patent license and that the parties would not negotiate for Sonos to provide any services to Google. *See* deposition of James Malackowski, August 26, 2022, pp. 64-65.

⁴⁷ During his August 26, 2022 deposition, Mr. Malackowski admitted that he is not aware of any real-world evidence where Google used the commission it charged on apps in the Play Store as a data point in real-world licensing negotiations. *See* deposition of James Malackowski, August 26, 2022, pp. 153-161.

⁴⁸ Mr. Malackowski admitted that Google’s patent licenses and purchase agreements were lump sum in nature. *See* deposition of James Malackowski, August 26, 2022, p. 165.

449. The estimated labor cost to design, test and implement this commercially acceptable, non-infringing alternative on an *ex post* basis total approximately \$200,000 (see **Exhibit 2.0**). I understand that these costs would have been less as of the hypothetical negotiation, because this type of functionality would have been implemented instead of what is currently in place. I described at length above as to why this would have been commercially acceptable.

6.2 ‘885 ‘And 966 Patents: Analysis Of Commercially Acceptable, Non-Infringing Alternatives

450. I understand from Dr. Schonfeld that Google had several types of technically and commercially acceptable, non-infringing alternatives to the ‘885 and ‘966 patents at the time of the hypothetical negotiation(s).⁷⁷⁹ I understand these types of changes would have been technically and commercially acceptable.⁷⁸⁰ I further understand that the types of commercially acceptable, non-infringing alternatives discussed below are exemplary in nature, meaning that these are not meant to be an exhaustive listing of all of the potential commercially acceptable, non-infringing alternatives that are possible for the ‘885 and ‘966 patents.⁷⁸¹

Commercially Acceptable NIA Category B1: When An Accused “Standalone” Speaker Is Added To A Target Group, It Matches The Music (Or Silence) Of The Target Group

451. I understand from Dr. Schonfeld that the asserted claims of the ‘885 and ‘966 patents require “a zone player [*i.e.*, a speaker] that was playing back music individually be added to two different zone scenes but to continue to operate in a “standalone” mode until one of the two zone scenes is invoked.”⁷⁸²

452. I understand from Dr. Schonfeld that one commercially acceptable, non-infringing alternative to the asserted claims of the ‘885 and ‘966 patents would involve the “standalone” speaker not continuing to operate in “standalone mode” after it has been added to two “zone scenes” or

⁷⁷⁹ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686; Interview of Mr. Mackay.

⁷⁸⁰ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686; Interview of Mr. Mackay.

⁷⁸¹ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686. Mr. Malackowski also admitted when he testified at deposition that there are many ways to group speakers. See deposition of James Malackowski, August 26, 2022, pp. 58-61.

⁷⁸² Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686.

groups.⁷⁸³ Instead, the accused “standalone” speaker after being added to a “zone scene” would match the behavior of the group or “zone scene” (*i.e.*, match the music or silence of the group once added to the group).⁷⁸⁴

453. I understand from Dr. Schonfeld that, in this alternative, the “standalone” speaker would not “continue to operate in standalone mode” after receiving the indication that it “has been added to a first zone scene.”⁷⁸⁵ Rather, the “standalone” speaker would “adopt the behavior of the accused “zone scene” to which it was added.”⁷⁸⁶ In other words, I understand that the “standalone” speaker would no longer be “configured to play back media individually” or remain in the accused “standalone mode.”⁷⁸⁷
454. I understand that this type of non-infringing alternative would be commercially and technically acceptable to end users.⁷⁸⁸ According to Dr. Schonfeld, these changes would have been commercially acceptable since the change would have only involved a relatively minor modification to a relatively small part of the product.⁷⁸⁹
455. According to Ken Mackay, Senior Staff Software Engineer, and Dr. Schonfeld, Google is in the midst of implementing this design change. I also understand that Google had also rolled out this change to all currently sold smart speakers and smart displays by the end of December 2022.⁷⁹⁰ I understand that this commercially acceptable, non-infringing alternative has been tested through various forms of beta testing.⁷⁹¹ I understand that no significant issues or

⁷⁸³ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686; Deposition of Dan Schonfeld, August 31, 2022, pp. 41-42, 50-51, 130-131, 134.

⁷⁸⁴ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 679-686. I understand from Dr. Schonfeld the current behavior is that “when a single speaker is playing music and a group is playing music and the single speaker is added to the group, the speaker will begin playing the music that the group was playing.” I also understand from Dr. Schonfeld that having the same behavior for a situation where “a speaker is playing music and joined to a group that is not playing music,” would harmonize the behavior in both situations (*i.e.*, speaker joined to a group would stop playing the music it was playing).

⁷⁸⁵ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁷⁸⁶ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁷⁸⁷ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682. I further understand that this NIA applies to static, dynamic and stereo pair groups.

⁷⁸⁸ Interview of Mr. Mackay; Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁷⁸⁹ Interview of Dr. Schonfeld.

⁷⁹⁰ Interview of Mr. Mackay. I understand that the rollout for Chromecast products is in process. I reserve the right to update my analysis as additional information becomes available.

⁷⁹¹ Interview of Mr. Mackay.

roadblocks have been identified.⁷⁹²

456. Mr. Mackay and Dr. Schonfeld told me that this change matches user expectations in that a speaker added to a group playing music would take on playing the music (or silence) of that group.⁷⁹³ In other words, if this change was implemented at the beginning (*i.e.*, on an *ex ante* basis), there would have been less, if any, customers that noticed.⁷⁹⁴ I also understand that if there is any discernible change to the user experience today, it would only be to a small subset of users and would be about the idea of change in and of itself, and not the actual change.⁷⁹⁵ This is consistent with what I discussed above; only a relatively small subset of owners of accused products even use the grouping functionality (and even less would use the accused “zone scene” functionality).⁷⁹⁶

457. Mr. Mackay also told me that this change is being pushed out on the accused devices through a software update as part of Google’s normal release cycle (although if done on an *ex ante* basis, I understand no software updates would have been required, as it would have been implemented this way to begin with).⁷⁹⁷ Mr. Mackay also told me that, Google typically pushes out software updates at least three times annually, and has the option to send periodic updates as necessary.⁷⁹⁸

458. I understand that this commercially acceptable, non-infringing alternative would have been available to Google at the date of first alleged infringement of the ‘885 patent in November 2020, and the ‘966 patent in November 2019.⁷⁹⁹ I understand that implementing this commercially acceptable, non-infringing alternative would be relatively minor and that it would take about one day of one senior level (*i.e.*, “Level-6”) engineer to design, test and implement this alternative.⁸⁰⁰ I understand that implementing this alternative would not

⁷⁹² Interview of Mr. Mackay.

⁷⁹³ Interview of Mr. Mackay; Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁷⁹⁴ Interview of Mr. Mackay.

⁷⁹⁵ Interview of Mr. Mackay.

⁷⁹⁶ Interview of Mr. Mackay.

⁷⁹⁷ Interview of Mr. Mackay.

⁷⁹⁸ Interview of Mr. Mackay.

⁷⁹⁹ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁸⁰⁰ Interview of Mr. Mackay; Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682. I understand that Google is not implementing updates on accused products that have been discontinued. However,

require additional hardware cost.⁸⁰¹

459. According to Mr. McKay, there is no incremental testing time required, since the quality control process is part of the normal release cycle and this change.⁸⁰² I also understand from Mr. McKay that when there is a new release, the bugs are tested as part of the normal process.⁸⁰³ Nevertheless, I conservatively included the testing and quality assurance time attributable to the normal release cycle.

460. I understand that the testing and quality assurance process for this change would involve five to ten test engineers, located in India, working full-time for approximately two weeks.⁸⁰⁴ I understand that this testing time applies to each product family.⁸⁰⁵

461. I also understand the annual compensation cost of a Google Level 6 engineer in the San Francisco Bay Area is approximately [REDACTED] in 2022.⁸⁰⁶ This encompasses salary, benefits, bonus, equity refresh, employer taxes and other payroll costs.⁸⁰⁷ This translates to hourly rate of approximately [REDACTED] per hour (*see Exhibit 2.5*). I understand that the compensation cost in 2022 for Google's quality assurance test engineers, who are based in India, is approximately [REDACTED] per hour (*see Exhibit 2.3*).⁸⁰⁸

462. The estimated labor cost to design, test and implement this commercially acceptable, non-infringing alternative at the time of the hypothetical negotiations for the '885 and '966 patents would have been minimal (*i.e.*, less than \$5,000). I understand there would be no incremental

I understand there would be no change in time to implement the commercially acceptable NIA if it was done at the time of the hypothetical negotiation *i.e.*, on an *ex ante* basis.

⁸⁰¹ Interview of Mr. Mackay; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁸⁰² Interview of Mr. Mackay.

⁸⁰³ Interview of Mr. Mackay.

⁸⁰⁴ Interview of Mr. Sheehan; Interview of Mr. Mackay. I also understand that there would be an individual, located in the United States, overseeing the testing process (*see Exhibit 2.3*).

⁸⁰⁵ Interview of Mr. Mackay. I understand from Mr. Mackay that there are five product families relating to the accused products, including: (i) speakers (*i.e.*, Google Home, Home Mini, etc.); (ii) Chromecast/ Cast OS (*i.e.*, Google's older Chromecast products); (iii) Legacy displays (*i.e.*, Google's display hubs); (iv) Fuchsia displays (*i.e.*, Google's new display hub operating system); and (v) Media shell (*i.e.*, New Chromecast products/ Google TV). I also understand from Mr. Mackay that Fuchsia is a new operating system being developed for Google's display products.

⁸⁰⁶ Interview of Ms. Wade.

⁸⁰⁷ Interview of Ms. Wade.

⁸⁰⁸ Interview of Mr. Sheehan.

quality control or testing time specific to this commercially acceptable, non-infringing alternative as the quality control is part of the normal release cycle.⁸⁰⁹ And today, the cost is expected to total less than \$200,000 (*see* **Exhibit 2.0**).

463. Mr. Malackowski stated that “Google’s alleged non-infringing alternatives would have little, if any, impact on the hypothetical negotiation in this case because they are too uncertain, too unsubstantiated, and the potential availability of such alternatives have already been accounted for through the selection of quantitative royalty rate indicators.”⁸¹⁰ Mr. Malackowski’s claim lacks basis, and is premature. The costs and purported lack of commercial feasibility of this change can be evaluated as discovery proceeds since this change is ongoing.
464. Since these changes are being implemented, actual costs are not necessarily going to be exactly the same as what is estimated. The estimates are based on information that is currently and reasonably available. Since discovery is ongoing, I reserve the right to update my analyses and supplement this report as additional information becomes available regarding these costs. In any case, this NIA discredits Mr. Malackowski’s analysis and conclusions.
465. As I discussed in **Section 4**, the evidence shows that the ‘885 and ‘966 patents do not appear to drive demand for the accused products in a significant way. There is relatively little interest in grouping in general (much less overlapping “zone scene”), particularly relative to what Mr. Malackowski claims.⁸¹¹ The grouping feature (much less overlapping “zone scene”) do not affect user experience in any significant way.⁸¹² This also shows the commercial acceptability of this non-infringing alternative. This supports that there are expected to be no significant ongoing costs in terms of impact on sales or changes in demand or pricing.⁸¹³
466. According to Dr. Almeroth and Mr. Malackowski, this commercially acceptable, non-infringing alternative for the ‘885 patent “would neither be non-infringing nor commercially

⁸⁰⁹ Interview of Mr. Mackay.

⁸¹⁰ Malackowski Supplemental Report, p. 127.i

⁸¹¹ *See* **Exhibit 4.3**; **Exhibit 4.4**; Interview of Dr. Schonfeld.

⁸¹² *See* **Exhibit 4.3**; **Exhibit 4.4**; Interview of Dr. Schonfeld.

⁸¹³ Interview of Mr. Mackay; Interview of Dr. Schonfeld.

acceptable.”⁸¹⁴ Dr. Almeroth claimed that this alternative “still infringes the Asserted Claims of the ‘966 Patent.”⁸¹⁵ According to Dr. Almeroth, “the asserted claims of the ‘966 Patent do not require the first zone player “*continuing* to operate in the standalone mode” “*after* receiving the first and second indications” that the first zone player has been added to the first and second zone scenes, respectively.”⁸¹⁶ I discussed this with Dr. Schonfeld who explained to me that this is incorrect.⁸¹⁷

467. Mr. Malackowski also stated that that “even if Google “pushes out” software updates that contain the non-infringing alternative software, all users might not update their products and the Accused Instrumentalities would no longer infringe.”⁸¹⁸ Mr. Malackowski also stated that “even data from Google reveals that the consumers aren’t taking to the new Android 12 as quickly as the tech giant would like.”⁸¹⁹ Mr. Malackowski assumed that a user would have to upgrade to a new operating system (*e.g.*, Android 12) to receive software updates involving this alternative. Mr. Malackowski incorrectly assumed that the change, for the ‘885 patent, would have to be made to the phones. I understand the change is implemented on firmware that goes to speakers, and not phones, and that the updates to the firmware on those speakers occurs automatically such that a user does not need to download, install, or approve the download or install of the update.⁸²⁰

Commercially Acceptable NIA Category B2: No Overlapping Groups

468. I understand from Dr. Schonfeld that another commercially acceptable, non-infringing alternative to the ‘885 and ‘966 patents is an implementation in which a speaker that is already a member of one group will be forced out of this (*i.e.*, first) group when a user attempts to add the speaker to a new (*i.e.*, second) group.⁸²¹ According to Dr. Schonfeld, under this commercially acceptable, non-infringing alternative, no speaker can be overlapping or a

⁸¹⁴ Almeroth Opening Report, p. 315; Malackowski Supplemental Report, p. 91.

⁸¹⁵ Almeroth Opening Report, pp. 315-318.

⁸¹⁶ Almeroth Opening Report, pp. 315-318.

⁸¹⁷ Interview of Dr. Schonfeld. For none of the criticisms of the NIAs does Mr. Malackowski rely upon Google-specific information or knowledge or consider an alternative perspective. Malackowski Supplemental Report, pp. 90-91.

⁸¹⁸ Malackowski Supplemental Report, p. 128.

⁸¹⁹ Malackowski Supplemental Report, pp. 128-129.

⁸²⁰ Interview of Mr. Mackay.

⁸²¹ Interview of Dr. Schonfeld; Deposition of Dan Schonfeld, August 31, 2022, pp. 41-43.

member of more than one group at the same time.⁸²²

469. Dr. Schonfeld told me that a user would still be able to create, name, and save speaker groups, but just not have a particular speaker be saved in multiple groups at the same time.⁸²³ In other words, under this commercially acceptable, non-infringing alternative, I understand that an overlapping speaker would switch to only be a member of the most recent group to which it gets added to and there would be no other impact.⁸²⁴

470. I understand from Dr. Schonfeld that this commercially acceptable, non-infringing alternative would be acceptable to end users since the modification would not be material or significant to the overall product because no other features would be impacted.⁸²⁵ I further understand that there would be no impact to the other speakers saved in the previous group and that they would remain in the group.⁸²⁶

471. I also discussed this with Mr. Mackay of Google, who told me that only a small subset of users would even potentially notice if the overlapping speaker were to switch to the most recent group it is added to instead of being saved in multiple groups at the same time.⁸²⁷ This is consistent with the usage data produced by Google (*see Exhibit 4.3 and Exhibit 4.4*). Moreover, I understand this alternative would only come into play if a user needed to add a speaker that was already part of a group to a second group.⁸²⁸ Mr. Mackay told me that he views this as being commercially acceptable.⁸²⁹

472. I understand that another type of non-infringing alternative to the '885 and '966 patents is to have speaker groups assigned abstract identifiers (such as shapes, colors, letters, pictures or numbers) that are either selectable or not selectable by the user.⁸³⁰ I understand that Google

⁸²² Interview of Dr. Schonfeld; Deposition of Dan Schonfeld, August 31, 2022, pp. 41-43.

⁸²³ Interview of Dr. Schonfeld.

⁸²⁴ Interview of Dr. Schonfeld.

⁸²⁵ Interview of Mr. Mackay.

⁸²⁶ Interview of Mr. Mackay.

⁸²⁷ Interview of Mr. Mackay; Interview of Dr. Schonfeld

⁸²⁸ Interview of Mr. Mackay.

⁸²⁹ Interview of Mr. Mackay; Interview of Dr. Schonfeld

⁸³⁰ Interview of Dr. Schonfeld; Order re. Cross Motions for Partial Summary Judgment at 7-9, Dkt. 309, July 21, 2022.

could also remove the ability for a user to select a name for speaker groups and simply automatically assign names that would not necessarily convey any meaning to a user of the group (like a “location” or “purpose”).⁸³¹ I also understand this types of random naming or abstract identifiers could avoid infringement because they would not meet the requirement of a “common theme.”⁸³²

473. I understand that the types of non-infringing alternatives in this overall category would have been available to Google at the date of first alleged infringement of the ‘885 patent in November 2020, and the ‘966 patent in November 2019.⁸³³ I understand that implementation would take, at most, about one day of one senior level (*i.e.*, “Level-6”) engineer to design, test and implement.⁸³⁴ I understand that there is not not require additional hardware cost.⁸³⁵
474. According to Mr. McKay, there is no incremental testing time specific to this category of commercially acceptable, non-infringing alternatives since the quality control process is part of the normal release cycle, and the bugs are tested as part of the normal release cycle.⁸³⁶
475. Although I understand there is no incremental testing time specific to the change, I conservatively included the testing and quality assurance time attributable to the normal release cycle. This is a more encompassing measure than the cost to implement this type of commercially acceptable, non-infringing alternative at the time of the hypothetical negotiation. I understand that the testing and quality assurance process for a rollout in general could involve five to ten testing engineers working full-time for approximately two weeks.⁸³⁷ I understand that this testing time applies to each product family.⁸³⁸

⁸³¹ Interview of Dr. Schonfeld; Order re. Cross Motions for Partial Summary Judgment at 7-9, Dkt. 309, July 21, 2022.

⁸³² Interview of Dr. Schonfeld; Order re Cross Motions for Partial Summary Judgment at 7-9, Dkt. 309, July 21, 2022.

⁸³³ Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁸³⁴ Interview of Mr. Mackay; Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁸³⁵ Interview of Mr. Mackay; Interview of Dr. Schonfeld; Schonfeld Opening Report, Section XIII, pp. 680-682.

⁸³⁶ Interview of Mr. Mackay.

⁸³⁷ Interview of Mr. Mackay; Interview of Mr. Sheehan. I also understand that there would be an individual, located in the United States, overseeing the testing process (*see* **Exhibit 2.4**).

⁸³⁸ Interview of Mr. Mackay. I understand from Mr. Mackay that there are five product families relating to the accused products, including: (i) speakers (*i.e.*, Google Home, Home Mini, etc.); (ii) Chromecast/ Cast OS (*i.e.*, Google’s older Chromecast products); (iii) Legacy displays (*i.e.*, Google’s display hubs); (iv) Fuchsia displays

476. I understand the annual compensation cost of a Google Level 6 engineer in the San Francisco Bay Area is approximately [REDACTED] in 2022.⁸³⁹ This encompasses salary, benefits, bonus, equity refresh, employer taxes and other payroll costs.⁸⁴⁰ This translates to hourly rate of approximately [REDACTED] per hour. I also understand that the compensation cost for Google's QA test engineers in 2022, who are based in India, is approximately [REDACTED] per hour (*see Exhibit 2.4*).⁸⁴¹
477. Using these broader assumptions, the estimated labor cost to design, test and implement this type of commercially acceptable, non-infringing alternative currently (*ex post* basis) total less than \$200,000 (*see Exhibit 2.0*). Again, this is a more encompassing measure (which includes testing and quality assurance cost as part of the normal release cycle). I understand that the costs would be less as of the hypothetical negotiation(s).
478. As I discussed immediately above, as well as in **Section 4** and elsewhere, the evidence shows that the '885 and '966 patents do not appear to drive demand for the accused products in a significant way. There is relatively little interest in grouping in general (much less overlapping "zone scene"), particularly relative to what Mr. Malackowski claims.⁸⁴² The grouping feature (much less overlapping "zone scene") do not affect user experience in any significant way.⁸⁴³ This also shows the commercial acceptability of this non-infringing alternative. This supports that there are expected to be no significant ongoing costs in terms of impact on sales or changes in demand or pricing.⁸⁴⁴
479. Relying on Dr. Almeroth, Mr. Malackowski stated that the alternative for the '885 patent that is being implemented "would neither be non-infringing nor commercially acceptable."⁸⁴⁵ Dr. Almeroth stated that this alternative would "significantly degrade user experience since

(*i.e.*, Google's new display hub operating system); and (v) Media shell (*i.e.*, New Chromecast products/ Google TV). I also understand from Mr. Mackay that Fuchsia is a new operating system being developed for Google's display products.

⁸³⁹ Interview of Ms. Wade.

⁸⁴⁰ Interview of Ms. Wade.

⁸⁴¹ Interview of Mr. Sheehan.

⁸⁴² *See Exhibit 4.3 and Exhibit 4.4*; Interview of Dr. Schonfeld.

⁸⁴³ *See Exhibit 4.3 and Exhibit 4.4*; Interview of Dr. Schonfeld.

⁸⁴⁴ Interview of Mr. Mackay; Interview of Dr. Schonfeld.

⁸⁴⁵ Almeroth Opening Report, p. 315; Malackowski Supplemental Report, p. 91.

multiple ‘zone scenes’ with one or more overlapping speakers for synchronous playback is not possible. One of the advantages is to create and save multiple ‘zone scenes’ with overlapping speakers that can be stored for future use.”⁸⁴⁶ Neither Mr. Malackowski nor Dr. Almeroth have demonstrated what the impact of this “degradation” would be, if any, and I understand from Dr. Schonfeld that he disagrees with Dr. Almeroth.⁸⁴⁷ As I explained above, I understand that Mr. Malackowski and Dr. Almeroth are incorrect.⁸⁴⁸

7 MARKET APPROACH: MR. MALACKOWSKI’S ANALYSIS IS FLAWED AND UNRELIABLE

480. The market approach is based upon the *principle of comparison*. Under the market approach, assets are valued based on comparable arm’s length transactions between unrelated parties. In terms of a reasonable royalty determination, the market approach involves consideration of the terms of licenses and other transactions involving comparable technology and comparable commercial circumstances.⁸⁴⁹
481. Discussion of the market approach is organized as follows. In this section of the report, I provide a general overview of this evidence and the issues with Mr. Malackowski’s reasons for dismissing patent acquisitions and patent licenses which are economically unsound and flawed.
482. Mr. Malackowski relied on various licensing evidence, but his analysis of the evidence is flawed and incomplete. I briefly discuss the issues below with the licensing evidence below,

⁸⁴⁶ Almeroth Opening Report, pp. 324-325.

⁸⁴⁷ Interview of Dr. Schonfeld.

⁸⁴⁸ Interview of Dr. Schonfeld and Mr. Mackay. Also, as I explained at length above, Mr. Malackowski has not identified significant demand for the functionality of the ‘885 and ‘966 patents, and the evidence in this case shows that there is generally a lack of demand for these features; these are not the types of features that drive incremental unit sales or differences in pricing (*see*, for example, **Section 4.1** and **Section 5.3**). Mr. Malackowski’s own analysis, when basic adjustments are made, further supports this point (*see Section 5.3*).

⁸⁴⁹ *See, e.g., Uniloc USA Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1316 (Fed. Cir. 2011), citing *ResQNet*, 594 F.3d at 870-872; *Lucent Techs.*, 580 F.3d at 1327; and *Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308 (Fed. Cir. 2010). The Federal Circuit has also held that the “licenses relied on by the patentee in proving damages [must be] sufficiently comparable to the hypothetical license at issue in suit” (*see Lucent Techs.*, 580 F.3d 1325 and *ResQNet*, 594 F.3d at 872). In addition to my financial analyses, I considered guidance provided by the Federal Circuit, including in the *ResQNet* and *Prism* cases (*see Prism Tech v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1368-71 (Fed. Cir. 2017)). In *Prism v. Sprint*, the Federal Circuit identified factors that can be informative when evaluating the admissibility of settlement agreements, including whether the suit involved the patent(s)-in-suit, the stage in litigation that the settlement occurred, and the overall amount of the settlement agreement.

HIGHLY CONFIDENTIAL-ATTORNEYS' EYES ONLY

7.2 Mr. Malackowski Mistreated Sonos Licensing Negotiations With Google

499. Mr. Malackowski stated that the licensing negotiations between Sonos and Google are not comparable to the hypothetical license(s).⁸⁹² In this regard, Mr. Malackowski and I appear to agree.⁸⁹³ Yet, despite stating that the licensing negotiations between Sonos and Google are not comparable to the hypothetical negotiation(s) and are not probative of a reasonable royalty,⁸⁹⁴ Mr. Malackowski includes a significant discussion of these licensing negotiations, and it is unclear if he believes they are irrelevant. Thus, in response to Mr. Malackowski, I briefly discuss the licensing negotiations between Sonos and Google in the following paragraphs.

500. One reason that these licensing negotiations are not comparable since they involved a cross-license to each other's patent portfolio. Also, these negotiations related to proposed business relationships between the parties, and involved proposals that were not finalized or executed.⁸⁹⁵

501. I understand that, beginning 2016, Sonos and Google participated in licensing negotiations regarding a license to each other's patent portfolios.⁸⁹⁶ Sonos produced several negotiation documents with Google, including an [REDACTED] "non-binding" Confidential Patent License and Business Engagement Agreement ("[REDACTED] - Google Term Sheet").⁸⁹⁷ The [REDACTED] - Google Term Sheet was a proposal; it was neither finalized nor executed.⁸⁹⁸

502. [REDACTED]
[REDACTED]⁸⁹⁹ Exhibit A to the term sheet listed [REDACTED] as part of the [REDACTED]

⁸⁹² Malackowski Supplemental Report, pp. 49-52.

⁸⁹³ Mr. Malackowski makes other observations about the form of Sonos licenses that he says are otherwise irrelevant. Mr. Malackowski disregarded that, if anything, these negotiations support a reasonable royalty in the form of a lump sum. GOOG-SONOSNDCA-00116067-071; SONOS-SVG2-00041807-860; SONOS-SVG2-00041610-642; SONOS-SVG2-00041769-806; SONOS-SVG2-00041643-686; SONOS-SVG2-00041571-609; SONOS-SVG2-00041568-570.

⁸⁹⁴ Malackowski Supplemental Report, pp. 50-53.

⁸⁹⁵ Malackowski Supplemental Report, pp. 50-53.

⁸⁹⁶ SONOS-SVG2-00041610-642 at 612-613.

⁸⁹⁷ GOOG-SONOSNDCA-00116067-071 at 067.

[REDACTED] GOOG-SONOSNDCA-00116067-071 at 70.

Again, this amount is not specific to the patents-in-suit and is not relevant to the hypothetical negotiation(s). However, to the extent that it is considered, this amount discredits Mr. Malackowski's running royalty theory, and provides evidence of the lump-sum form of royalty in this case.

⁸⁹⁸ GOOG-SONOSNDCA-00116067-071.

⁸⁹⁹ GOOG-SONOSNDCA-00116067-071.

and without providing economic comparison to comparable technologies the hypothetical license(s), if any, then Mr. Malackowski has no basis to draw conclusions about the rates contained therein.

508. These licensing negotiations ultimately did not result in an agreement between the parties. Generally, the Sonos-Google negotiations do not provide data points that are comparable to the hypothetical license(s). These negotiations are for proposed business relationships that contain other terms and conditions, and it does not appear that rights specific to the patents-in-suit can be isolated.

7.3 *Mr. Malackowski's Treatment Of Google Patent Licenses Is Flawed*

509. Mr. Malackowski discussed Google patent licenses in some detail, but he dismisses them claiming they are “not economically comparable.”⁹¹² In this regard, Mr. Malackowski and I appear to agree.⁹¹³ Despite stating that these licenses are not comparable, Mr. Malackowski included a lengthy discussion of these agreements, so it is unclear if he intends to try to use them to support his opinions.⁹¹⁴ Thus, I respond to some of the flawed observations that Mr. Malackowski made regarding them.⁹¹⁵

510. I note that on January 5, 2023, Google and [REDACTED] entered into a Patent License Agreement involving a lump-sum payment.⁹¹⁶ I understand that the technology in this agreement is comparable to the ‘033 patent.⁹¹⁷ This agreement is very recent, and my analysis

⁹¹² Malackowski Supplemental Report, pp. 53-58.

⁹¹³ According to Mr. Malackowski, these agreements were not between competitors and granted worldwide rights while the hypothetical license would be between competitors and limited to the United States. Malackowski Supplemental Report, pp. 53-58.

⁹¹⁴ Malackowski Supplemental Report, pp. 53-58. I discuss this below when I address each of these licenses.

⁹¹⁵ Generally, Mr. Malackowski disregarded the form of these patent licenses, despite observing in Sonos's agreements where there are running royalties, even though he says those agreements are not comparable to the hypothetical license(s). The Google license agreements are not per unit or based on revenues, and are instead lump-sum in nature (*see Exhibit 8.0*). GOOG-SONOSNDCA-00055142-152; GOOG-SONOSNDCA-00069849-851; GOOG-SONOSNDCA-00055153-164; GOOG-SONOSNDCA-00069847-848; GOOG-SONOSNDCA-00055209-220; GOOG-SONOSNDCA-00069846; GOOG-SONOSNDCA-00055066-077; GOOG-SONOSNDCA-00069845.

⁹¹⁶ GOOG-SONOSNDCA-00118768.

⁹¹⁷ Bhattacharjee Rebuttal Report, January 13, 2023, Section XVII.

of this agreement is ongoing.⁹¹⁸

Mr. Malackowski Mistreated The 2012 [REDACTED] – Google Agreement

511. In December 2012, [REDACTED] and Google entered into a Patent License Agreement (the “2012 [REDACTED] – Google Agreement”).⁹¹⁹ [REDACTED] is a wholly owned subsidiary of AST.⁹²⁰ Mr. Malackowski dismissed this agreement, claiming it is “not economically comparable” to the hypothetical license.⁹²¹ In this regard, Mr. Malackowski and I appear to agree. However, it is unclear why Mr. Malackowski discussed this agreement at such length if he believed this agreement is not comparable to the hypothetical license(s). I discuss it below in response to Mr. Malackowski.
512. [REDACTED] granted Google a non-exclusive, non-transferable, non-sublicensable, perpetual, irrevocable, fully paid-up, and worldwide license under certain defined “Licensed Patents.”⁹²² However, [REDACTED] also released and covenanted not to sue Google.⁹²³ The term of the agreement was from the effective date until the expiration of the last to expire of the Licensed Patents.⁹²⁴ These considerations are broader than the hypothetical license(s), all else being equal.
513. Mr. Malackowski stated that the “Google, [REDACTED] License granted worldwide rights, while the license resulting from the hypothetical negotiation would be limited to the United States.”⁹²⁵ Mr. Malackowski observed that this agreement is broader than the hypothetical license. Yet, Mr. Malackowski made no adjustment for this when he makes observations about the royalty amount paid.

⁹¹⁸ Google agreed to pay [REDACTED] a one-time, lump-sum amount of \$300,000. See GOOG-SONOSNDCA-00118768.

⁹¹⁹ GOOG-SONOSNDCA-00055142-152; GOOG-SONOSNDCA-00069849-851.

⁹²⁰ SONOSNDCA-00069849-851, at 850. Google agreed to pay [REDACTED] a one-time, lump-sum payment of \$80,000. GOOG-SONOSNDCA-00055142-152, at 147; GOOG-SONOSNDCA-00069849-851, at 849. [REDACTED] acknowledged that its acquisition of the Licensed Patents was funded, in part, by Google, and that the partial funding would be deemed to include the license fee accepted as full consideration by [REDACTED] for the license granted under this agreement. See GOOG-SONOSNDCA-00055142-152, at 147.

⁹²¹ Malackowski Supplemental Report, pp. 53-58.

⁹²² GOOG-SONOSNDCA-00055142-152, at 143; Malackowski Supplemental Report, p. 53.

⁹²³ GOOG-SONOSNDCA-00055142-152, at 146.

⁹²⁴ GOOG-SONOSNDCA-00055142-152, at 147.

⁹²⁵ Malackowski Supplemental Report, p. 53.

514. Mr. Malackowski stated that “[REDACTED] is an NPE,” and that “licenses with an NPE are fundamentally different than with a competitor who is an operating company actively participating in the same industry.”⁹²⁶ Mr. Malackowski also claimed that the “patented technology is worth more in the hands of a capable operating company who can leverage the technology and derive value from the patent.”⁹²⁷ But Mr. Malackowski identified no evidence that a significant number of customers shifted from Sonos to Google (or were prevented from going to Sonos) due to either of the patents-in-suit, so it is unclear if Mr. Malackowski is referring to a distinction without showing an actual difference.

515. Elsewhere, Mr. Malackowski admitted that Sonos does not practice the ‘033 patent and does not have competitive counterparts to Google’s Pixel smartphones, laptops, or tablets. Sonos also did not have a counterpart to Google’s streaming music service at the time of the hypothetical negotiation for the ‘033 patent.⁹²⁸ Mr. Malackowski did not square these observations against his claims about comparability, particularly his claim that “patented technology is worth more in the hands of a capable operating company who can leverage the technology and derive value from the patent.”⁹²⁹

Mr. Malackowski Mistreated The 2013 Garnet – Google Agreement

516. Mr. Malackowski dismissed this agreement, claiming it is “not economically comparable” to the hypothetical license(s).⁹³⁰ In this regard, Mr. Malackowski and I appear to agree. He nevertheless discusses this agreement in some detail.⁹³¹ It is unclear why Mr. Malackowski did so if he believes it is not economically comparable.⁹³² I provide additional information only in response to Mr. Malackowski.

⁹²⁶ Malackowski Supplemental Report, p. 53.

⁹²⁷ Malackowski Supplemental Report, p. 54.

⁹²⁸ Malackowski Supplemental Report, pp. 30-32.

⁹²⁹ Malackowski Supplemental Report, p. 54. Mr. Malackowski states that “based on his experience, patents are much more valuable in a strategy designed for commercialization and utilization versus purely monetization.”

This statement is also declaratory and unsupported.

⁹³⁰ Malackowski Supplemental Report, pp. 65-66.

⁹³¹ Malackowski Supplemental Report, pp. 65-66.

⁹³² Malackowski Supplemental Report, pp. 65-66.

of Texas.⁹³⁹ In October 2012, Garnet filed an amended complaint against Google and Motorola.⁹⁴⁰ Around the same timeframe, Google and Motorola filed their answers denying infringement.⁹⁴¹ In January 2013, Garnet and Google entered into a settlement agreement whereby all claims against Google were dismissed.⁹⁴²

521. Mr. Malackowski stated that this license is not comparable due to “several economic factors,” including:

- The agreement “was entered as part of the settlement of litigation, in which litigation Garnet alleged Google of infringement of one of its patents;”
- “as additional consideration, Garnet covenanted not to sue Google” and Google’s affiliates and partners;
- “the royalty was likely discounted based on the risk of invalidity or non-infringement judgments relating to Garnet’s patent;” and
- “the license grant was worldwide with respect to covered territories whereas the hypothetical would result in a license covering the United States.”⁹⁴³

522. Mr. Malackowski did not provide independent analysis of or support for his claim regarding the supposed “discount,” or quantify the supposed “discount.”⁹⁴⁴ Also, Mr. Malackowski observed that “Garnet covenanted not to sue Google” and that the license grant was worldwide in nature. These considerations are broader than the hypothetical license(s), all else equal, which Mr. Malackowski disregarded.

Mr. Malackowski Mistreated The 2014 [REDACTED] – Google Agreement

523. In December 2014, [REDACTED] and Google entered into a Patent License Agreement (the “2014 [REDACTED] – Google

⁹³⁹ Original Complaint For Patent Infringement, *Garnet Digital, LLC. V. Apple, Inc., et al.*, 6:11-cv-647 (E.D. TX, December 2, 2011).

⁹⁴⁰ Amended Complaint For Patent Infringement, *Garnet Digital, LLC. V. Apple, Inc., et al.*, 6:11-cv-647 (E.D. TX, October 3, 2012).

⁹⁴¹ Defendant Google Inc.’s Answer And Affirmative Defenses To Plaintiff’s Amended Complaint, *Garnet Digital, LLC. V. Apple, Inc., et al.*, 6:11-cv-647 (E.D. TX, October 17, 2012).

⁹⁴² Order Granting Motion To Dismiss, *Garnet Digital, LLC. V. Apple, Inc., et al.*, 6:11-cv-647 (E.D. TX, February 11, 2013).

⁹⁴³ Malackowski Supplemental Report, p. 66.

⁹⁴⁴ Malackowski Supplemental Report, p. 66.

Agreement”).⁹⁴⁵ I understand the patent rights licensed under this agreement are not technically comparable to the patents-in-suit.⁹⁴⁶ Here too, despite dismissing this agreement, Mr. Malackowski discussed the economic terms of this agreement in some detail, including with errors, so I provide some discussion below for rebuttal purposes.

524. Mr. Malackowski stated that AST is a “nonprofit group that buys patents that its member companies could be sued for infringing” and that AST “invites patent owners to offer patents at a “take-it-or-leave-it” fixed price with “no negotiations.”⁹⁴⁷

525. Google received a license under certain Licensed Patents, as defined.⁹⁴⁸ The Licensed Patents included an issued U.S. patent, U.S. Publication No. 20070256105, foreign counterparts, reissues, continuations, and continuations in part.⁹⁴⁹ In terms of foreign counterparts and continuations, this is broader than the hypothetical license(s), all else equal.

526. [REDACTED] also released and covenanted not to sue Google.⁹⁵⁰ The term of the 2014 [REDACTED] – Google Agreement was from the effective date until the expiration of the last to expire

⁹⁴⁵ GOOG-SONOSNDCA-00055153-164; GOOG-SONOSNDCA-00069847-848. Google agreed to pay [REDACTED] a one-time, lump-sum payment of \$52,000. GOOG-SONOSNDCA-00055153-164, at 159; GOOG-SONOSNDCA-00069847-848, at 847. [REDACTED] acknowledged that its acquisition of the Licensed Patents was funded, in part, by Google, and that the partial funding would be deemed to include the license fee accepted as full consideration by [REDACTED] for the license granted under this agreement. See GOOG-SONOSNDCA-00055153-164, at 159.

⁹⁴⁶ Interview of Dr. Bhattacharjee.

⁹⁴⁷ Malackowski Supplemental Report, p. 55. AST is a “member driven cooperative that provides patent risk mitigation services” and grants licenses to its members who join the group by paying membership fees to fund IP acquisitions. “Our Mission,” AST website (accessed: <https://www.ast.com/about-us/asts-mission/>).

⁹⁴⁸ GOOG-SONOSNDCA-00055153-164 at 159. More specifically, [REDACTED] granted Google a non-exclusive, non-transferable, non-sublicensable, perpetual, irrevocable, fully paid-up, and worldwide license under the “Licensed Patents” to (i) research, develop, make, have made, use, host, offer for sale, sell, distribute directly or indirectly, import and otherwise dispose of any Licensed Product, and (ii) to practice any method, service, process or procedure within the Licensed Patents. GOOG-SONOSNDCA-00055153-164, at 154; Malackowski Supplemental Report, p. 54. The term “Licensed Patents” was defined as “the patent applications and patents set forth in Schedule A, together with any and all reissues, results of reexamination, extensions, divisions, continuations and continuations in part of such patents and patent applications, and any foreign counterparts of any of the foregoing, in each case to the extent [REDACTED] has an ownership interest or has otherwise acquired a right to grant a license thereunder[.]” See GOOG-SONOSNDCA-00055153-164, at 153. Schedule A listed U.S. Patent No. 6,762,686 (“Interactive wireless home security detectors”) and U.S. Publication No. 20070256105 (“Entertainment device configured for interactive detection and security vigilant monitoring in communication with a control server”). See GOOG-SONOSNDCA-00055153-164, at 164.

⁹⁴⁹ GOOG-SONOSNDCA-00055153-164, at 164. Google contributed a lump sum of \$52,000 in a “bid,” as a member of AST, towards AST’s purchase of the Licensed Patents from [REDACTED] GOOG-SONOSNDCA-00055153-164, at 159; “Acquired Portfolios,” AST website (accessed: <https://www.ast.com/acquired-portfolios/>).

⁹⁵⁰ GOOG-SONOSNDCA-00055153-164, at 157-158.

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the '966 patent to gain significant market share from Google, or "leveraged" it as an "operating company" to generate significant incremental revenues.⁹⁵⁸

530. Mr. Malackowski claimed that "Google and Sonos did view themselves as competitors in the smart speaker market, regardless of whether Sonos practices the '615 patent."⁹⁵⁹ It is unclear why Mr. Malackowski discussed the '615 patent here; it is not in the present case.⁹⁶⁰ In any event, as I have now described above at length, Mr. Malackowski's "market" analysis and his analysis of competition is incomplete and often errant.

Mr. Malackowski Mistreated The 2017 [REDACTED] – Google Agreement

531. In January 2017, [REDACTED] and Google entered into a Patent License Agreement (the "2017 [REDACTED] – Google Agreement").⁹⁶¹ As part of its membership in AST, Google contributed the lump-sum amount in a "bid" towards AST's purchase of the Licensed Patents from [REDACTED]⁹⁶² [REDACTED] granted Google a license to the Licensed Patents.⁹⁶³ As I discussed earlier, the economic circumstances here are different than the hypothetical license.

⁹⁵⁸ Malackowski Supplemental Report, p. 30.

⁹⁵⁹ Malackowski Supplemental Report, p. 55.

⁹⁶⁰ In August 2022, the Court granted Google's motion for summary judgment finding non-infringement and invalidity of claim 13 of the '615 patent. See Order Granting Motion For Partial Summary Judgment As To '033 Patent, August 2, 2022.

⁹⁶¹ GOOG-SONOSNDCA-00055209-220; GOOG-SONOSNDCA-00069846. GOOG-SONOSNDCA-00055209-220, at 215; GOOG-SONOSNDCA-00069846. [REDACTED] acknowledged that its acquisition of the Licensed Patents was funded, in part, by Google, and that the partial funding would be deemed to include the license fee accepted as full consideration by [REDACTED] for the license granted under this agreement. See GOOG-SONOSNDCA-00055209-220, at 215. According to Dr. Schonfeld, the licensed patent in this agreement, U.S. Patent No. 7,885,340 ("340 patent"), is technically comparable to the '885 and '966 patents. Interview of Dr. Schonfeld.

⁹⁶² Google agreed to pay [REDACTED] a one-time, lump-sum payment of \$13,000. GOOG-SONOSNDCA-00069845: "Acquired Portfolios." AST website (accessed: <https://www.ast.com/acquired-portfolios/>). The term "Licensed Patents" was defined as "the patent applications and patents set forth in Schedule A, together with any and all reissues, results of reexamination, extensions, divisions, continuations and continuations in part of such patents and patent applications, and any foreign counterparts of any of the foregoing, in each case to the extent [Sierra View] has an ownership interest or has otherwise acquired a right to grant a license thereunder[.]" See GOOG-SONOSNDCA-00055066-077, at 066. Schedule A listed U.S. Patent Nos. 9,699,262 ("Integrated viewing of local and remote applications in various multiplatform environments") and 8,463,912 ("Remote displays in mobile communication networks"); U.S. Patent Application No. 60206543 ("Remote displays in mobile networks") and 60277001 ("Virtual Palmtop Platform"); and two foreign patents/applications. See GOOG-SONOSNDCA-00055066-077, at 076.

⁹⁶³ GOOG-SONOSNDCA-00055209-220, at 215.

Mr. Malackowski Mistreated The 2019 [REDACTED] – Google Agreement

539. In August 2019, [REDACTED] and Google entered into a Patent License Agreement (the “2019 [REDACTED] – Google Agreement”).⁹⁷⁷ As part of its membership in AST, Google contributed the lump-sum amount in a “bid” towards AST’s purchase of the Licensed Patents from [REDACTED].⁹⁷⁸ [REDACTED] granted Google a license under the Licensed Patents.⁹⁷⁹ As I discussed earlier, the economic circumstances here are different than the hypothetical license.

540. Mr. Malackowski says that is “fundamentally different than the economics at play at the hypothetical negotiation.”⁹⁸⁰ Here, too, Mr. Malackowski discussed this agreement in some detail despite stating that it is “not economically comparable” to the hypothetical license. Thus, only in response to Mr. Malackowski, I briefly discuss the terms of this agreement below.

541. [REDACTED] granted Google a non-exclusive, non-transferable, non-sublicensable, perpetual, irrevocable, fully paid-up, and worldwide license under certain “Licensed Patents.”⁹⁸¹ The

⁹⁷⁷ GOOG-SONOSNDCA-00055066-077; GOOG-SONOSNDCA-00069845. Google agreed to pay [REDACTED] a one-time, lump-sum payment of \$10,000. GOOG-SONOSNDCA-00055066-077, at 072; GOOG-SONOSNDCA-00069845. [REDACTED] acknowledged that its acquisition of the Licensed Patents was funded, in part, by Google, and that the partial funding would be deemed to include the license fee accepted as full consideration by [REDACTED] for the license granted under this agreement. See GOOG-SONOSNDCA-00055066-077, at 072.

⁹⁷⁸ Mr. Malackowski says that is “fundamentally different than the economics at play at the hypothetical negotiation” since AST is a “nonprofit group that buys patents that its member companies could be sued for infringing” and offers its patents at a “take-it-or-leave it” fixed price. Malackowski Supplemental Report, pp. 57-58; GOOG-SONOSNDCA-00069845; “Acquired Portfolios,” AST website (accessed: <https://www.ast.com/acquired-portfolios/>). The term “Licensed Patents” was defined as “the patent applications and patents set forth in Schedule A, together with any and all reissues, results of reexamination, extensions, divisions, continuations and continuations in part of such patents and patent applications, and any foreign counterparts of any of the foregoing, in each case to the extent [REDACTED] has an ownership interest or has otherwise acquired a right to grant a license thereunder[.]” See GOOG-SONOSNDCA-00055066-077, at 066. Schedule A listed U.S. Patent Nos. 9,699,262 (“Integrated viewing of local and remote applications in various multiplatform environments”) and 8,463,912 (“Remote displays in mobile communication networks”); U.S. Patent Application No. 60206543 (“Remote displays in mobile networks”) and 60277001 (“Virtual Palmtop Platform”); and two foreign patents/applications. See GOOG-SONOSNDCA-00055066-077, at 076.

⁹⁷⁹ GOOG-SONOSNDCA-00055066-077, at 072.

⁹⁸⁰ Malackowski Supplemental Report, pp. 57-58.

⁹⁸¹ GOOG-SONOSNDCA-00055066-077, at 067; Malackowski Supplemental Report, p. 57. The term “Licensed Patents” was defined as “the patent applications and patents set forth in Schedule A, together with any and all reissues, results of reexamination, extensions, divisions, continuations and continuations in part of such patents and patent applications, and any foreign counterparts of any of the foregoing, in each case to the extent [REDACTED] has an ownership interest or has otherwise acquired a right to grant a license thereunder[.]” See GOOG-SONOSNDCA-00055066-077, at 066. Schedule A listed U.S. Patent Nos. 9,699,262 (“Integrated

Mr. Malackowski And The Invention Investment Fund I Patent Acquisitions

547. In July 2003, [REDACTED] entered into a Limited Partnership Agreement with limited partners or entities that entered into Subscription Agreements.⁹⁹⁵ Effective December 31, 2003, Invention Investment Fund I (“IIF”) and Google entered into a partnership and subscription agreement, whereby Google had the right to receive licenses to certain patents.⁹⁹⁶ That same year, IIF and Google entered into a Patent License Agreement based on Google’s membership in IV (the “2003 IIF – Google Agreement”).⁹⁹⁷ Mr. Malackowski stated that this and related agreements are “not economically comparable to the license that would result from the hypothetical negotiation.”⁹⁹⁸
548. Mr. Malackowski stated that the “general structure by which the patents were acquired and then licensed to subscribers of an IP portfolio is fundamentally different than a bare patent license between competitors.”⁹⁹⁹ As Mr. Malackowski noted, IIF is run by Intellectual Ventures, which “manages a portfolio” and “grants companies rights to patents in diverse technical categories acquired from a variety of sources.”¹⁰⁰⁰
549. Mr. Malackowski stated that these agreements are not comparable to the hypothetical license(s) due to the nature of IIF.¹⁰⁰¹ For purposes of comparison to Mr. Malackowski’s analysis, I will also set these agreements aside.

⁹⁹⁵ GOOG-SONOSNDCA-00055078-141 at 082.

⁹⁹⁶ GOOG-SONOSNDCA-00054990-998, at 990; GOOG-SONOSNDCA-00055078-141; GOOG-SONOSNDCA-00055014-031.

⁹⁹⁷ GOOG-SONOSNDCA-00054990-998. Google produced two notices from IIF relating to the acquisition of patents. GOOG-SONOSNDCA-00054982-985; GOOG-SONOSNDCA-00054986-989. In February 2008, IIF acquired a portfolio of four U.S. patents from [REDACTED] (i.e., IP Group 00601 – [REDACTED]) for a purchase price of \$5 million (“the [REDACTED] Transaction”). GOOG-SONOSNDCA-00054982-985. The total cost of ownership of these patents (including maintenance fees and acquisition expenses) was estimated to be approximately \$5.1 million. GOOG-SONOSNDCA-00054982-985. In September 2008, IIF acquired a portfolio of two U.S. patents and two U.S. patent applications from [REDACTED] (i.e., IP Group 01045 – [REDACTED]) for a purchase price of \$410,000 (“the [REDACTED]”). GOOG-SONOSNDCA-00054986-989. The total cost of ownership of these patents (including maintenance fees and acquisition expenses) totaled \$599,063. GOOG-SONOSNDCA-00054986-989.

⁹⁹⁸ Malackowski Supplemental Report, pp. 58-61.

⁹⁹⁹ Malackowski Supplemental Report, pp. 59-60.

¹⁰⁰⁰ Malackowski Supplemental Report, pp. 59-60.

¹⁰⁰¹ Malackowski Supplemental Report, p. 60.

exclude, and also to collect royalties.¹⁰⁰⁷ Holding all else equal, the 2011 Outland Research – Google Agreement is more valuable than a hypothetical, non-exclusive, bare patent license and is comparable in this way.

554. Mr. Malackowski also claimed that Google and Outland Research are not competitors, unlike the parties to the hypothetical negotiation.¹⁰⁰⁸ But as I discussed in **Section 2** and **Section 5**, Mr. Malackowski's consideration of the competitive environment is incomplete. Mr. Malackowski does not credit the fact the patents-in-suit are not used to generate significant demand, or to obtain a significant competitive advantage. Also, in the end, Google obtained the comparable patent rights for a price that is readily observed and was accepted by a third party. In this regard, the purchase agreement provides a better benchmark than the apps and other proxies utilized by Mr. Malackowski.

555. I further evaluated how the 2011 Outland Research – Google Agreement compares to the hypothetical license(s). I understand from Dr. Schonfeld that certain of the Outland Research patents are technologically comparable to the '885 and '966 patents; they included technologies related to collaborative background music and broadcast playback, music recommendations and synchronized overlays.¹⁰⁰⁹ I also understand from Dr. Schonfeld that at least the patents in the agreement (*i.e.*, U.S. Patent Nos. 7,603,414 ("the '414 patent"), 7,562,117 ("the '117 patent"), 7,542,816 ("the '816 patent") and 7,732,694 ("the '694 patent")) are more essential than the '885 and '966 patents because collaborative music experience, for example, has a wider potential impact than the particular way of implementing the overlapping speaker functionality claimed in the '885 and '966 patents.¹⁰¹⁰

556. I also understand that a subset of patents in this agreement relate to synchronization among devices.¹⁰¹¹ This includes the '414 patent, the '117 patent, the '816 patent and the '694 patent.¹⁰¹² According to Dr. Schonfeld, this subset is directed toward solving similar problems

¹⁰⁰⁷ In applicable circumstances.

¹⁰⁰⁸ Malackowski Supplemental Report, pp. 61-62.

¹⁰⁰⁹ Interview of Dr. Schonfeld.

¹⁰¹⁰ Interview of Dr. Schonfeld.

¹⁰¹¹ Interview of Dr. Schonfeld.

¹⁰¹² Interview of Dr. Schonfeld; Deposition of Dr. Schonfeld, August 31, 2022, pp. 145-147.

associated with the ability to synchronously stream data to different devices, and how to allow for a more seamless multi-device experience for listeners.¹⁰¹³

557. According to Dr. Schonfeld, the '414 and '117 patents, in particular, are technologically comparable to the '885 and '966 patents.¹⁰¹⁴ I understand that the '414 and '117 patents allow consumers to listen to music as a group, listen to music on a group of devices, and collaborate across devices to access media recommendations based on the group's preferences.¹⁰¹⁵

558. I also understand that the '816 patent is technologically comparable to the '885 and '966 patents since it is directed towards allowing users to experience music in different ways depending on their mood.¹⁰¹⁶ Similarly, the '885 and '966 patents claim to provide a whole house experience that can be tailored to various situations by grouping audio players in different ways for morning or evening routines or grouping for party music.¹⁰¹⁷

559. I also understand that the '694 patent is technologically comparable to the '885 and '966 patents since it is directed towards providing users with improved music listening experience and time-synchronized delivery of media content.¹⁰¹⁸

560. In terms of economic comparability, the 2011 Outland Research – Google Agreement represents a real-world, arms-length transaction for patents that cover similar functionality to the '885 and '966 patents.

561. Outland Research is an entity owned by inventor Louis B. Rosenberg with a wide range of inventions.¹⁰¹⁹ According to Mr. Malackowski, Outland Research is a non-practicing entity, and he seems to indicate that this is automatically discrediting.¹⁰²⁰ But there is more to consider than what Mr. Malackowski did, and it is not reasonable for Mr. Malackowski to take

¹⁰¹³ Interview of Dr. Schonfeld.

¹⁰¹⁴ Interview of Dr. Schonfeld.

¹⁰¹⁵ Interview of Dr. Schonfeld.

¹⁰¹⁶ Interview of Dr. Schonfeld.

¹⁰¹⁷ Interview of Dr. Schonfeld.

¹⁰¹⁸ Interview of Dr. Schonfeld.

¹⁰¹⁹ "SEO By The Sea," (accessed: <https://www.seobythesea.com/2011/09/google-picks-up-hardware-and-media-patents-from-outland-research/>).

¹⁰²⁰ Malackowski Supplemental Report, p. 62.

the position that agreements involving non-practicing entities cannot be used in negotiations involving patent practicing entities. The hypothetical license(s) include only patent rights, as did Google's agreement with Outland Research. In the end, Google obtained the comparable patent rights, and freedom to operate under these patents, among other patent rights, for a price that is readily observed. Mr. Malackowski also disregarded that Sonos itself did not add the "zone scene" functionality in its products until June 2020, although Sonos claims to have invented "zone scene" and "overlapping groups" in 2006.¹⁰²¹

562. Mr. Malackowski claimed that "owning a patent requires more obligation, and most patents purchased in patent purchases are not of significant value."¹⁰²² Mr. Malackowski disregards that most patent licensed are also not of significant value, so this is not a reason to dismiss a purchase. According to Mr. Malackowski, these additional "obligations" included maintenance-related costs.¹⁰²³ Mr. Malackowski has not shown that such costs are material here relative to the \$2.25 million purchase price, or otherwise materially affected the purchase price. Also, regarding his claim that most patent purchases are not of significant value, it is unclear if Mr. Malackowski believes that \$2.25 million is insignificant. If he is making such a claim, I disagree.

563. Mr. Malackowski also claimed that the dynamics of purchases "often lead[] to lump sum prices."¹⁰²⁴ Here, Mr. Malackowski minimized his inherent concession that companies may sell patent rights and retain an interest in any royalties collected, including running royalties. Mr. Malackowski also did not consider the possibility of patent sales that include contingent running royalty payments when the purchaser utilizes the technology. It would not be accurate for Mr. Malackowski to suggest that patent purchases only are done as lump sum payments, which is apparently why Mr. Malackowski only observed that this may "often" be true.

564. Licenses and patent ownership provide the right, but not obligation, to use a particular patent right over a period of time. Often, there is no royalty base, as the royalty reflects the operating

¹⁰²¹ Interview of Dr. Schonfeld; Malackowski Supplemental Report, p. 30; Almeroth Report, p. 329; '885 patent; '966 patent. As I discussed at length above, Mr. Malackowski identifies no significant demand specific to the '885 and '966 patents, or any evidence that such technology provided a competitive benefit to Sonos.

¹⁰²² Malackowski Supplemental Report, p. 62.

¹⁰²³ Deposition of James Malackowski, August 26, 2022, p. 170.

¹⁰²⁴ Malackowski Supplemental Report, p. 62.

freedom that is provided under the license in this way. Thus, from a financial perspective, payments can be adjusted to consider differences in timeframes based on the temporal scopes of the licenses/ownership (*see Exhibit 5.0*).

565. The term of the agreement can also be compared to the hypothetical license(s). In analyzing the length of the 2011 Outland Research – Google Agreement, I used the date of the agreement as the starting point (*i.e.*, July 29, 2011). For the ending date, I used the expiration date of January 19, 2027, which is the first to expire of the comparable U.S. patents (*i.e.*, the ‘414 patent). This is reasonable because the 2011 Outland Research – Google Agreement included other rights as well as future patent rights, which would extend the life of the agreement beyond the expiration date of the ‘414 patent. The 2011 Outland Research – Google Agreement provided Google approximately 15.5 years of operating freedom (*see Exhibit 5.0*). Assuming a 15.5-year term yields an annual amount of approximately \$145,000 per year (*see Exhibit 5.0*).
566. The 15.5 years of operating freedom granted under the 2011 Outland Research – Google Agreement is longer than the hypothetical license to the ‘885 patent. The hypothetical license period from November 2020 to September 2027 for the ‘885 patent, yields a total of 6.8 years (*see Exhibit 5.0*). These periods of time overlap. And scaling the \$2.25 million amount for differences in these timeframes yields a lump-sum amount of approximately \$987,000 applicable through expiration of the ‘885 patent (*see Exhibit 5.0*).¹⁰²⁵
567. Similarly, the 15.5 years of operating freedom granted under the 2011 Outland Research – Google Agreement is longer than and overlaps with the hypothetical license to the ‘966 patent. The hypothetical license period from November 2020 to September 2027 for the ‘966 patent, yields a total of 7.9 years (*see Exhibit 5.2*). Scaling the \$2.25 million amount for differences in these timeframes yields a lump-sum amount of approximately \$1.1 million applicable through expiration of the ‘966 patent (*see Exhibit 5.2*).¹⁰²⁶

¹⁰²⁵ When scaled for the damages timeframe, this translates to approximately \$261,300 (*see Exhibit 5.1*).

¹⁰²⁶ When scaled for the damages timeframe, this translates to approximately \$435,500 (*see Exhibit 5.3*).

577. The 2016 [REDACTED] – Google Agreement involved ownership rights to patents. As I also discussed above, this does not mean that the agreement is not comparable to a non-exclusive license. All else being equal, a patent purchase conveys much more value than a non-exclusive license for several reasons. The purchaser not only gains the freedom to operate, but controls an option to exclude, and also to collect royalties.¹⁰⁴⁵ Holding all else equal, the 2016 [REDACTED] Google Agreement is more valuable than the license that would result from the hypothetical negotiation.

578. As I discussed above, licenses and patent ownership provide the right, but not obligation, to use a particular patent right over a period of time. Often, there is no royalty base, as the royalty reflects the operating freedom that is provided under the license in this way. Thus, payments can be adjusted to consider differences in timeframes based on the temporal scopes of the licenses/ownership (*see Exhibit 5.4*).

579. In analyzing the length of the 2016 [REDACTED] – Google Agreement, I used the date of the agreement as the starting point (*i.e.*, February 24, 2016). For the ending date, I used the expiration date of September 16, 2025 for the first to expire of the U.S. patents (*i.e.*, the ‘213 and ‘584 patents). This is reasonable a reasonable assumption because the 2016 [REDACTED] Google Agreement included other rights as well as future patent rights, which would extend the life of the agreement beyond the expiration date of the ‘213 and ‘584 patents. The 2016 [REDACTED] – Google Agreement provided Google approximately 9.6 years of operating freedom. Assuming a 9.6-year term yields an annual amount of approximately \$26,000 per year (*see Exhibit 5.4 and Exhibit 5.5*).

580. The 9.6 years of operating freedom granted under the 2016 [REDACTED] – Google Agreement is shorter than the hypothetical license. The hypothetical license for the ‘033 patent, if a lump sum, applies to September 2020 to December 2031; this is about 11.3 years (*see Exhibit 5.4*). The [REDACTED] agreement and the hypothetical license for the ‘033 patent both involve patent rights with applicable time periods that overlap. And scaling the \$250,000 amount for

¹⁰⁴⁵ In applicable circumstances.

differences in these timeframes yields a lump-sum amount of approximately \$294,300 applicable through expiration of the '033 patent (*see Exhibit 5.5*).¹⁰⁴⁶

581. Mr. Malackowski dismissed the 2016 [REDACTED] – Google Agreement since it is a purchase agreement.¹⁰⁴⁷ Here again, like with the Outland Research agreement discussed above, the reasoning provided by Mr. Malackowski for dismissing of a purchase is not valid.

582. Mr. Malackowski also dismissed purchase agreement because “Google received a number of deliverables including U.S. Patents, U.S. Patent Applications, Non-U.S., Enforcement Activities, Patent Office Proceedings, Assignment of Patent Rights, Patent Marking, Merger or Change of Name Documents, Security Agreements, and Wire Transfer Information” instead of a bare patent license.¹⁰⁴⁸ But these are ordinary course documents that relate to ownership of patent rights, and are far more related to patent rights than the software and other aspects of developed product and services offerings in Mr. Malackowski’s “comparable” apps. It is not reasonable for Mr. Malackowski to claim that the apps are comparable to the naked, patent-only hypothetical license(s), but a purchase agreement that is specific to patent rights is not.¹⁰⁴⁹

583. Mr. Malackowski claimed that “the lump sum royalty payment in the Google [REDACTED] Purchase is not indicative of the royalty form Sonos would be willing to accept.”¹⁰⁵⁰ Again, Mr. Malackowski disregards Google’s perspective, and his opinion of a running royalty is discredited by the evidence which supports a lump-sum form of royalty, as I discussed at length above.

584. The hypothetical license(s) include only patent rights, as did Google’s agreement with [REDACTED]. Mr. Malackowski identified no evidence that a significant amount of customers shifted from

¹⁰⁴⁶ When scaled for the damages timeframe, this translates to approximately \$52,100 (*see Exhibit 5.5*).

¹⁰⁴⁷ Malackowski Supplemental Report, pp. 63-64.

¹⁰⁴⁸ Malackowski Supplemental Report, p. 63.

¹⁰⁴⁹ Additionally, Mr. Malackowski’s claim that “[REDACTED] is an NPE” is not a valid reason to totally dismiss this agreement. As I explained above, Sonos does not practice the '033 patent, either. Malackowski Supplemental Report, pp. 30, 64. Elsewhere, Mr. Malackowski admitted that Sonos does not practice the '033 patent, and that Sonos does not have a competitive counterpart to Google’s Pixel smartphones. Malackowski Supplemental Report, p. 30. Sonos also does not have a counterpart to Google’s streaming music service, which is an accused product for the '033 patent, at the time of the hypothetical negotiation for the '033 patent. Malackowski Supplemental Report, pp. 30-32.

¹⁰⁵⁰ Malackowski Supplemental Report, pp. 63-64.

Sonos to Google (or were prevented from going to Sonos) due to the '033 patent. Also, in the end, Google obtained the comparable patent rights for a price that is readily observed, was accepted by a third party, as well as involved a comparable period of time and scope. In this regard, the [REDACTED] agreement (as well as the Outland Research agreement) provide a better benchmark than the apps and other proxies utilized by Mr. Malackowski. I discuss this further in Section 7.5, below.

Mr. Malackowski And The 2017 [REDACTED] – Google Agreement

585. Effective September 8, 2017, Google and [REDACTED] entered into a Patent Purchase Agreement (the “2017 [REDACTED] – Google Agreement”).¹⁰⁵¹ I accept Mr. Malackowski’s position that this agreement does not provide an amount that would inform the hypothetical negotiation(s).¹⁰⁵²

7.5 ‘033 Patent: Mr. Malackowski’s “Alternative” Theory (Third-Party Casting Apps) Is Flawed And Unreliable

586. Immediately after dismissing every single actual, patent-specific transaction, Mr. Malackowski described how he relied on apps as benchmarks.¹⁰⁵³ As I will explain below, the apps that Mr. Malackowski considered as applicable are not patent transactions, and unlike the hypothetical licenses(s); the patent acquisitions discussed above at least are relatively specific to comparable patent rights.

587. Mr. Malackowski said that rejected the patent acquisitions, claiming that Google received a number of deliverables, including boiler plate licensing documents such as “Non-U.S. Enforcement Activities, Patent Office Proceedings, Assignment of Patent Rights, Patent Marking, Merger or Change Name Documents, Security Agreements, and Wire Transfer Information, rather than receiving a bare patent license.”¹⁰⁵⁴ Again, these are documents that relate to ownership of patent rights. If Mr. Malackowski believes such perfunctory information

¹⁰⁵¹ GOOG-SONOSNDCA-00055178-202. [REDACTED] agreed to sell patent rights for a one-time, lump-sum of \$100,000. GOOG-SONOSNDCA-00055178-202, at 180.

¹⁰⁵² Mr. Malackowski claims that “Mr. Bakewell failed to compare this agreement to the current Asserted Patents in this case.” Malackowski Supplemental Report, p. 65. Mr. Malackowski has no basis for this opinion.

¹⁰⁵³ Malackowski Supplemental Report, pp. 53-54, 66.

¹⁰⁵⁴ Malackowski Supplemental Report, pp. 61-63.